

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-003210**Date Inspected:** 05-Jul-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2330**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Sun Wei/Li Yanhua**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

The QA Inspector observed ZPMC qualified welder Dong Yi Qun ID 059450 utilizing WPS-345-FCAW-2G (2F) Repair to perform Flux Core Arc Welding (FCAW) repairs of deck panel Partial Joint Penetration (PJP) welds on DP026-001.

The QA Inspector Dixon was informed by ZPMC QC Inspector Mr. Wang Lu that ZPMC CWI Inspectors, Zhu Zhong Hai, An Qing Xjang and ABF personnel Kevin Chen were about to perform a final three party visual repair inspection on deck panels DP071-001 and DP072-001. Mr. Wang Lu Then requested that a Caltrans QA Inspector also performed a visual inspection on the deck panels.

After an agreement was reached by all parties on the repairs which had been completed on the deck panels the QA Inspector assigned Caltrans lot number B59 and the inspection date in the space listed as (FVT) on the yellow tag which is pasted to the outside U-Ribs of the deck panels. The ABF and ZPMC personnel also signed and dated the tag indicating the inspection had been completed.

The welding in progress and final visual inspections performed on the above listed deck panels generally appeared to conform to contract specifications.

The ABF Inspector Kevin Chen informed the QA Inspector that the two deck panels listed above would be removed from the Heavy Machinery Shop Bay # 3 and transported to the Assembly shop.

The deck panel repairs and welding in the progress generally appeared to conform to contract specifications.

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## WELDING INSPECTION REPORT

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### Tower Bay # 1

The QA Inspector observed ZPMC qualified and approved welder Chen Hong Xia # 040460 performing Flux Cored Arc Welding (FCAW) to weld filler passes for the Complete Joint Penetration (CJP) butt weld of the longitudinal stiffener skin (B) plates P223A/P223B weld joint SSD1-SA178 A/D-23A.

The ZPMC Certified Welding Inspector (CWI) Liu Huajie and various assistant welding Inspectors were monitoring the welding parameters.

The QA Inspector verified the welding machine amperage, voltage and filler metal per the Welding Procedure Specifications (WPS) which was posted at the welding station. The CWI identified the WPS being used to perform the welding as WPS-B-T-2231-B-U3-F.

The QA Inspector randomly observed ZPMC Welding Operator Yun Chuanjin ID 0503060 utilizing the Submerged Arc Welding (SAW Process with ZPMC Weld Procedure Specifications (WPS) B-T-2321-B-U3-C-S and (WPS) WPS-B-T-2221-BL2-C-S-1 to weld the fill passes for skin plate (D) complete joint penetration (CJP) butt weld joint identified by ZPMC as weld joint SSD1-SA180 C/E-6A.

### Tower Bay # 2

The QA Inspector observed ZPMC qualified and approved welder Zhang Binghua # 053316 performing Flux Cored Arc Welding (FCAW) to weld filler passes for the Complete Joint Penetration (CJP) butt weld of the longitudinal stiffener skin (E7) plates P401/P235 weld joint ESD1-SA216 G/K-23A/23B.

The ZPMC Certified Welding Inspector (CWI) Zhu Zhong Hai and various assistant welding Inspectors were monitoring the welding parameters.

The QA Inspector verified the welding machine amperage, voltage and filler metal per the Welding Procedure Specifications (WPS) which was posted at the welding station. The CWI identified the WPS being used to perform the welding as WPS-B-T-2231-B-U3-F.

The QA Inspector randomly observed ZPMC Welding Operator Yun Chuanjin ID 0503060 utilizing the Submerged Arc Welding (SAW Process with ZPMC Weld Procedure Specifications (WPS) B-T-2321-B-U3-C-S and (WPS) WPS-B-T-2221-BL2-C-S-1 to weld the fill passes for skin plate (D) complete joint penetration (CJP) butt weld joint identified by ZPMC as weld joint SSD1-SA180 C/E-6A.

The QA Inspector visually verified a single electrode was being utilized for the filler passes and the filler metal being used was JW-3 with a diameter of 4.8 millimeters. The Skin plate has both 90mm thick plate and 60mm thick plate. The members identified as P78(S) and P321 (S) are 90mm thick and the members identified as P1271 (S) and SA180 are 60mm thick. The material grade is identified as 345+345.

The QA Inspector observed that during the shift ZPMC CWI, Xu Le Feng and ZPMC CAWI Inspectors were monitoring the electrical parameters, travel speed and weld interpass temperatures at this welding station.

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## WELDING INSPECTION REPORT

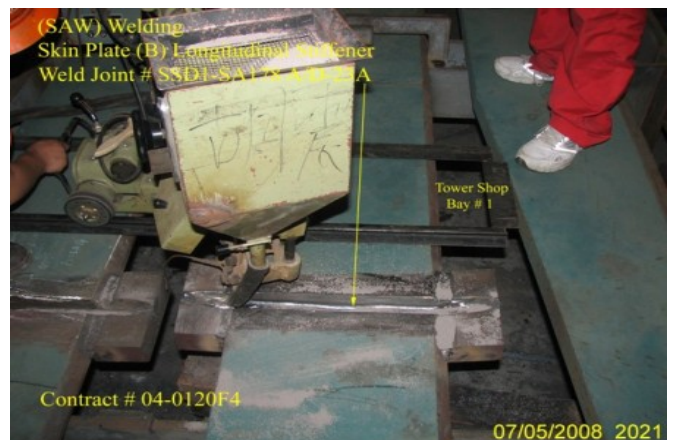
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The work being performed was in progress generally appeared to conform to contract specifications.

The welding in progress appeared to comply with the above listed WPS and the requirements of this contract.

For more detail see photographs shown below:



### Summary of Conversations:

As noted within the report shown above.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Ady Velasco, (818) 292-0659, who represents the Office of Structural Materials for your project.

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**Inspected By:** Dixon,Roscoe

Quality Assurance Inspector

**Reviewed By:** Cochran,Jim

QA Reviewer